

CLAIMS

We claim:

1. An apparatus, comprising:

an originating mobile switching center and a serving mobile switching center that
5 serve to connect a call from a communication device to a mobile device that is supported by
the serving mobile switching center;

wherein the mobile device is associated with an established telephone number, wherein the
serving mobile switching center is associated with an identification number;

wherein the originating mobile switching center employs the identification number to
10 connect the call with the serving mobile switching center;

wherein the serving mobile switching center employs the established telephone
number to connect the call to the mobile device.

2. The apparatus of claim 1, wherein the mobile device comprises a roaming
mobile device, wherein the serving mobile switching center connects the call to the roaming
15 mobile device without allocation of a temporary roaming number for the roaming mobile
device.

3. The apparatus of claim 1, wherein the established telephone number comprises
a number associated with the mobile device that a user of the communication device dials to
initiate the call to the mobile device.

20 4. The apparatus of claim 1, wherein the serving mobile switching center may
employ the identification number for a plurality of contemporaneous calls.

5. The apparatus of claim 1, wherein upon receipt of a signaling message associated with the call that requests the identification number of the serving mobile switching center, the serving mobile switching center communicates the identification number to the originating mobile switching center.

5 6. The apparatus of claim 5, wherein the originating mobile switching center employs the identification number to determine that the serving mobile switching center is supporting the mobile device for the call;

wherein the originating mobile switching center employs the identification number to connect the call with the serving mobile switching center for delivery to the mobile phone
10 associated with the established telephone number.

7. The apparatus of claim 1, wherein the serving mobile switching center is associated with a plurality of identification numbers, wherein the serving mobile switching center selects the identification number for the call from the plurality of identification numbers based on one or more characteristics of the call.

15 8. The apparatus of claim 7, wherein the identification number comprises a first identification number, wherein the call comprises a first call;

wherein the serving mobile switching center selects the first identification number from the plurality of identification numbers to classify the first call into a first category;

wherein upon receipt of a second call, the serving mobile switching center selects a
20 second identification number from the plurality of identification numbers to classify the second call into a second category.

9. The apparatus of claim 8, wherein the serving mobile switching center provides a first service to the first call based on the first identification number;

wherein the serving mobile switching center provides a second service to the second call based on the second identification number, wherein the second service differs from the first service.

10. The apparatus of claim 1, wherein one or more of the serving mobile switching center and the originating mobile switching center determine whether a path exists between the communication device and the mobile device that supports signaling messages capable of carrying the identification number, the established telephone number, and a call identification value;

wherein one or more of the serving mobile switching center and the originating mobile switching center employ the signaling messages capable of carrying the identification number, the established telephone number, and the call identification value to connect the call between the communication device and the mobile device.

11. The apparatus of claim 1, wherein the serving mobile switching center indicates a requirement to the originating mobile switching center for the originating mobile switching center to employ a path between the communication device and the mobile device that supports signaling messages capable of carrying the identification number, the established telephone number, and a call identification value.

12. The apparatus of claim 1, further comprising a home location register;

wherein upon receipt of the call, the originating mobile switching center sends a first signaling message to the home location register to find a location of the mobile device;

wherein the home location register sends a second signaling message to the serving
5 mobile switching center to request the identification number of the serving mobile switching center;

wherein the serving mobile switching center sends the identification number to the home location register;

wherein the home location register sends the identification number to the originating
10 mobile switching center;

wherein the originating mobile switching center sends a third signaling message to the serving mobile switching center that includes the identification number, the established telephone number, and a call identification value;

wherein the serving mobile switching center employs the established telephone
15 number to locate the mobile device for connection the call to the mobile device.

13. A method, comprising the steps of:

determining an identification number of a serving mobile switching center that supports a roaming mobile device; and

connecting a call to the roaming mobile device through employment of the
5 identification number to contact the serving mobile switching center and an established
telephone number of the roaming mobile device to contact the roaming mobile device.

14. The method of claim 13, wherein the step of determining the identification
number of the serving mobile switching center that supports the roaming mobile device
comprises the step of:

10 sending a signaling message to a home location register to initiate a request for the
identification number from the serving mobile switching center.

15. The method of claim 14, wherein the signaling message comprises a first
signaling message, wherein the step of connecting the call to the roaming mobile device
through employment of the identification number to contact the serving mobile switching
15 center and the established telephone number of the roaming mobile device to contact the
roaming mobile device comprises the steps of:

sending a second signaling message to the serving mobile switching center that
includes the identification number, the established telephone number, and a call identification
number; and

20 employing the established telephone number of the roaming mobile device to locate
the roaming mobile device for connection of the call to the roaming mobile device.

16. The method of claim 13, wherein the step of connecting the call to the roaming mobile device through employment of the identification number to contact the serving mobile switching center and the established telephone number of the roaming mobile device to contact the roaming mobile device comprises the steps of:

5 identifying a location of the roaming mobile device based on the identification number of the serving mobile switching center; and

routing the call to the serving mobile switching center for delivery to the roaming mobile device.

17. The method of claim 16, wherein the established telephone number comprises
10 a number associated with the roaming mobile device that a user of a communication device dials to initiate the call to the roaming mobile device, the method further comprising the step of:

employing the established telephone number of the roaming mobile device, without allocation of a temporary roaming number for the roaming mobile device, to locate the
15 roaming mobile device for connection of the call to the roaming mobile device.

18. The method of claim 13, wherein the serving mobile switching center comprises a plurality of identification numbers, wherein the identification number comprises a first identification number, wherein the call comprises a first call, wherein the step of determining the identification number of the serving mobile switching center that supports
5 the roaming mobile device comprises the steps of:

selecting the first identification number from the plurality of identification numbers based on one or more characteristics of the first call; and

providing a first service to the first call based on the first identification number;

the method further comprising the steps of:

10 selecting, upon receipt of a second call, a second identification number from the plurality of identification numbers based on one or more characteristics of the second call;

providing a second service that differs from the first service to the second call based on the second identification number.

19. The method of claim 13, wherein a communication device placed the call to
15 the roaming mobile device, wherein the step of connecting the call to the roaming mobile device through employment of the identification number to contact the serving mobile switching center and the established telephone number of the roaming mobile device to contact the roaming mobile device comprises the steps of:

determining whether a path exists between the communication device and the
20 roaming mobile device that supports signaling messages capable of carrying the identification number, the established telephone number, and a call identification value; and

employing the signaling messages capable of carrying the identification number, the established telephone number, and the call identification value to connect the call between the communication device and the roaming mobile device.

20. An article, comprising:

one or more computer-readable signal-bearing media;

means in the one or more media for determining an identification number of a serving mobile switching center that supports a roaming mobile device; and

5 means in the one or more media for connecting a call to the roaming mobile device through employment of the identification number to contact the serving mobile switching center and an established telephone number of the roaming mobile device to contact the roaming mobile device.

* * * * *